

# **Commonwealth of Massachusetts**

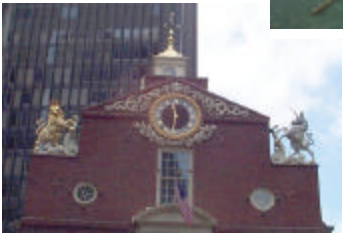
## **Enterprise IT Strategy**

**EXECUTIVE SUMMARY**

**February 2003**

Information  
Technology  
Commission





# Executive Summary

## February 2003



**COMMONWEALTH OF MASSACHUSETTS  
ENTERPRISE IT STRATEGY**

**FINAL REPORT  
EXECUTIVE SUMMARY**

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## **A. INTRODUCTION**

### ***ENTERPRISE IT: RAISING THE BAR IN MASSACHUSETTS***

Information Technology (IT) has become a powerful tool for almost everything we want to accomplish in government. IT's utility, and how we manage it, can dramatically impact the efficiency, effectiveness, and citizen-centric focus of government services and programs. Getting IT right is becoming more critical than ever for governments in meeting the demands of citizens, businesses, and employees who are expecting the same high level of service they are receiving in the private sector. IT impacts directly on the future economic competitiveness of the Commonwealth.

With the current budget crisis facing state governments, fewer funds are available and new accountability standards demand a clear economic payoff from any IT investment. Financial uncertainty is coupled with a rapidly changing technology environment, requiring new thinking and innovative approaches. An effective enterprise IT strategy requires the cooperation and collaboration of government business and IT leaders across government boundaries.

For Massachusetts to "raise the bar" in the delivery of government services, it must aggressively pursue reforming the way it governs, manages, and leverages the IT enterprise throughout the Commonwealth. Citizens view the Commonwealth as "one government," not a collection of agencies, departments, and authorities. Creating that "single view of government," with a seamless service interface, will come about only when IT-based reforms are implemented and can impact how government conducts its business.

### ***INFORMATION TECHNOLOGY COMMISSION: MEETING THE ENTERPRISE CHALLENGE***

The IT Commission was established in response to Section 6 of IT Bond III,<sup>1</sup> which directed, "...a special commission to recommend an enterprise-wide strategy, including all 3 branches of government and the constitutional offices, for the commonwealth's information technology infrastructure, system development and governance."

IT Commission members were appointed from among positions of leadership in both the public and private sectors.<sup>2</sup> They viewed this legislation as a "Call to Action," and experienced a sense of urgency in completing this report, which members regard as the beginning of a journey for the Commonwealth, rather than the completion of a task. After the election of Governor Romney in November 2002, IT Commission co-chairs met with the transition team to discuss the Commission's charter and membership. The transition

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<sup>1</sup> Chapter 142 of the Acts of 2002, "An Act Providing for Certain Information Technology Improvements," June 26, 2002. The Section 6 language is provided in the IT Commission Charter in Appendix A of the Final Report.

<sup>2</sup> Appendix A, IT Commission Charter, provides information on IT Commission members.

team endorsed both, and welcomed the Commission's findings and recommendations as inputs to the transition team's work.

Commission members understand the high degree to which state government depends on technology for meeting its operational needs and achieving its policy objectives. The Commission recognizes that one of the Commonwealth's primary challenges is to employ technology not only to deliver existing services faster and cheaper, but also to create new enterprise services and new roles for government that enhance social progress and foster prosperity. This task is especially challenging, given the continuing escalation in the development of technology and the fact that government operates in an environment of constant economic, political, and social change. Without an understanding of the changing political environment, and an insight into the direction technology is moving, wrong and wasteful investment decisions will be made. Improving the effectiveness of IT investment is at the heart of what the Commission is seeking to address through enterprise IT reform in the Commonwealth.

At the same time, it is important to note that IT is only the "enabler to change." Commission members were vocal about the need to avoid automating inefficient business processes. Members knew instinctively that, "The two most common complaints in and about the public sector IT community are...the charge that money and technology are being thrown at fundamentally broken processes, and the complaint about the imposition on public organizations of foreign processes that have been automated around the structure and operational needs of private sector corporations."<sup>3</sup> Responsive, innovative, cost efficient, and customer-centric government will result only when agencies examine existing business processes, and re-engineer these processes, as necessary, to create value for the end-user.

Massachusetts is at the forefront of state efforts nationally to develop an enterprise IT framework that spans all branches and levels of government. The present day context for implementing this enterprise approach is as compelling as it is challenging. This report addresses a number of opportunities to reshape and improve IT resources, practices, and potential in the Commonwealth, and discusses several of the key change drivers and challenges affecting its current business environment, specifically:

- a) the increased challenges and expectations by constituents for e-government services,
- b) the heightened emphasis surrounding homeland security post-September 11<sup>th</sup>,
- c) the current economic crisis, and
- d) the transition in political leadership.

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<sup>3</sup> Paul. W. Taylor, "Governing Informatics: When Digital Government Becomes Digital Governance," Government Technology, Dec. 2002: 98.

Today, these change drivers are converging, offering unparalleled opportunity to strategically position the Commonwealth to address the overall management and delivery of IT services.

***ENTERPRISE VISION: THE TIME IS NOW***

The Commission's enterprise vision for the Commonwealth is about more than just technology; it encompasses strategic direction, organization/people, technology, and processes. Leadership is crucial in this complex environment. The IT Commission adopted the following statement as representative of members' views on the appropriate scope of the enterprise, and the necessity to work to transcend existing governmental barriers:

“Opportunities for taxpayer savings, expanded public services, and improved efficiency in the public sector, through IT reform, require us to go beyond traditional boundaries. Enterprise IT reform in Massachusetts, to the extent appropriate, should encompass all three branches of state government, state agencies, state authorities, cities and towns, and the Commonwealth's university and research community.”<sup>4</sup>

While no single individual has the ultimate authority for enterprise performance, the opportunity to hold the enterprise accountable for results rests most squarely with the Governor, who should lead the outreach efforts to the Legislature, the Judiciary, constitutional offices, the higher education community, and local governments in Massachusetts.

In the first meeting of the IT Commission, Peter Quinn, the Chief Information Officer (CIO) for the Commonwealth of Massachusetts, described the timing of this legislatively mandated Enterprise IT Strategy initiative as “the perfect storm” for addressing IT governance and management issues in Massachusetts. As Mr. Quinn pointed out, the pending economic/budget crisis, the election of a new Administration, the need to expand e-government services, and the demand to address security concerns after September 11, 2001 are all converging, offering unparalleled opportunity to strategically position the Commonwealth to address the overall management and delivery of IT services.

The stage is set to build the business case for the Commonwealth to make bold and significant recommendations regarding an Enterprise IT Strategy for the Commonwealth. The work of the IT Commission is not an end, but a beginning.

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<sup>4</sup> “Draft Recommendations from the IT Commission,” Massachusetts IT Commission Meeting, 22 Jan. 2003.



## B. APPROACH

The IT Commission engaged IBM Business Consulting Services (IBM) to provide a “high-level assessment of the Commonwealth of Massachusetts’ information technology infrastructure, systems development, and governance.”<sup>5</sup> From these “as is” observations, the IBM team assisted the IT Commission in developing a high-level, strategic framework of recommendations, and a roadmap for implementing these recommendations. In conducting the “As Is” Assessment, the IBM team interviewed more than 50 individuals representing all three branches of government,<sup>6</sup> including many representatives from Commonwealth agencies.

Additionally, the IBM team researched public and private sector best practices, utilizing information from leading market research firms (e.g., Gartner, Meta, IBM Endowment for the Business of Government), and industry organizations and periodicals (e.g., Center for Digital Government, IBM Institute for Business Value, National Association of State CIOs, IT Governance Institute, Information Systems Audit and Control Association, Massachusetts Technology Collaborative, *Governing*, *Government Technology*). Members of the IT Commission, representing industry leaders such as AMS, Cisco Systems, DSD Labs, EDS, Harvard Pilgrim Health Care, Harvard University’s Kennedy School of Government, Sun Microsystems, and Verizon, participated actively by providing valuable insight into market trends, competitive landscape, and best practices in information technology governance and strategy. As part of this engagement, the IBM team Web-enabled the Commonwealth’s existing application database, which was developed originally as a Y2K initiative, so agencies can update this information directly over the Internet.

The IT Commission met six times from November 2002 through February 2003.<sup>7</sup> IT Commission members’ recommendations were informed by IBM’s “as is” observations, by facilitated visioning sessions, and by volumes of best practice research. The non-profit Center for Excellence in Government sponsored a daylong roundtable discussion with former government CIOs, to provide an opportunity for Commission members to dialogue directly with practitioners about governance structures and management practices that have worked successfully in state government environments, and about lessons learned. These practitioners were unanimous in their praise of Massachusetts for the inclusive, enterprise IT framework being pursued by the Commonwealth, and for the active involvement of Commission members from all branches of government, as well as the private sector. The Commission was diligent in looking beyond the performance of peer states, to leading industry practices in the private sector. The Commission was mindful

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<sup>5</sup> “IT Commission Enterprise IT Strategy Consultant”, *Statement of Work Between the Commonwealth of Massachusetts and IBM Corporation*, Nov 2002: 1.

<sup>6</sup> Appendix B provides a complete list of interviewees.

<sup>7</sup> Appendix C contains a schedule of IT Commission meetings and topics. Presentation materials and meeting minutes are available on the IT Commission’s web site: <http://www.state.ma.us/itcommission>.

that all private sector best practices cannot be translated exactly into the public sector, largely because of dissimilarities in public sector organizational governance models.

The IT Commission adopted a set of values as guiding principles for developing its recommendations. These values represent the Commission's ideals for the future enterprise IT environment in Massachusetts. As the Commonwealth moves forward in the development and deployment of an enterprise IT environment, the Commission recommends the continued adoption of these guiding principles as a framework within which to consider critical decisions affecting the Commonwealth's future IT environment:

- Single Face of Government;
- Strategic Direction with a Common Vision;
- Business Value;
- Collaboration;
- Pragmatism;
- Discipline;
- Agility;
- Accountability;
- Integrity;
- Equity in Access;
- Leveraging of What Works.



### **C. KEY OBSERVATIONS AND RECOMMENDATIONS**

The IBM team's observations about the "as is" environment, and the IT Commission's recommendations, are categorized into six areas:

- Governance
- IT Strategy
- Architecture and Standards
- IT Infrastructure
- Partnerships
- Security.

Due to the sensitive nature of the observations and recommendations related to Commonwealth security, this information has been removed from this report and published under separate cover. These materials are not available for public distribution.

The following tables summarize the key observations and recommendations within each category, and present the Commission's prioritization for each recommendation. Members prioritized Commission recommendations according to two criteria: criticality and implementation feasibility. Using these criteria, members reached consensus on placing recommendations into one of four categories:

- **Pursue:** High criticality, high feasibility
- **Plan:** High criticality, low feasibility
- **Permit:** Low criticality, high feasibility
- **Postpone:** Low criticality, low feasibility

(The prioritization process is described below, under "Implementation.") The rationale for each observation and recommendation is discussed in the body of the final report.

#### **1. Governance**

The topic of governance permeated all IT Commission discussions. IBM noted that the Commonwealth's IT governance structure is "weak," and many Commission recommendations are designed to broaden and strengthen IT governance and oversight. These recommendations received the Commission's highest prioritization for implementation. The Commission is advocating for a federated approach to governing the enterprise, in recognition of the unique challenges posed by public sector jurisdictional barriers, both among branches and across levels of government. The Commission recognizes that the Massachusetts Constitution limits the extent to which any branch of government or agency may exert control over, or set IT policy

for, another branch of government. Nevertheless, members believe that, consistent with the Constitution, considerable latitude exists for cooperation and coordination of IT services, practices, standards, and policies affecting all branches and levels of government within the Commonwealth. The recommendations in this report concerning “enterprise-wide” IT are all subject to, and should not be implemented except in accordance with, these constitutional requirements. Commission members hope that, to the extent, if any, that the Constitution may prohibit centralization of authority over enterprise-wide IT as envisioned by these recommendations, all branches of government will recognize the benefits of adopting the same practices, standards, and policies as recommended in this report, and that they voluntarily will work with each other to realize the goals of a secure and integrated IT environment as envisioned by this report.

	<b><i>Key Observations</i></b>	
	<ul style="list-style-type: none"> <li>IT governance structure is weak; CIO’s responsibilities extend beyond scope of authority.</li> <li>No defined processes for enterprise IT oversight.</li> <li>IT Bond Fund provides a focal point for strategic IT investments.</li> <li>Legal framework, and funding and procurement mechanisms, do not work in concert to facilitate enterprise IT management.</li> </ul>	
	<b><i>Recommendations</i></b>	<b><i>Priority</i></b>
G1	<ul style="list-style-type: none"> <li>Elevate the role of the Office of the CIO for the Commonwealth, and expand its scope to better manage both IT policy and operations for the enterprise.</li> </ul>	Pursue
G2	<ul style="list-style-type: none"> <li>Establish an IT Advisory Board to support the Commonwealth CIO in setting enterprise policies and standards, and in providing oversight of major IT initiatives.</li> </ul>	Pursue
G3	<ul style="list-style-type: none"> <li>Establish formal reporting relationships between the Office of the CIO and agency CIOs.</li> </ul>	Plan
G4	<ul style="list-style-type: none"> <li>Leverage “community of interest” concepts to deliver government services more effectively and efficiently.</li> </ul>	Plan
G5	<ul style="list-style-type: none"> <li>Transform ITD to be a customer-centric central IT provider.</li> </ul>	Pursue
G6	<ul style="list-style-type: none"> <li>Enhance and refine fiduciary responsibility for IT funding and management within the Office of the CIO.</li> </ul>	Pursue
G7	<ul style="list-style-type: none"> <li>Adopt a “Total Cost of Ownership” approach and cost benefit analysis for the assessment, management, monitoring, and funding of major IT initiatives and processes across the enterprise.</li> </ul>	Pursue

## 2. IT Strategy

The Commonwealth would benefit greatly from an overall enterprise strategy for achieving the collective business objectives of its members. An IT Strategy that is based on an overarching business strategy would help executive department agencies, constitutional offices, the Legislature and the judicial branch focus their energies and resources to improve value and cost-effective operations throughout government. The Commission recognizes that the development of an enterprise business strategy appears to be outside the scope of an IT Commission or an IT Advisory Board. However, such a strategy is essential to creating synergy and achieving alignment between the Commonwealth's IT investments and its desired service outcomes for citizens and businesses. The Commonwealth should devise a mechanism for agency leaders and IT leaders to partner together to develop an enterprise strategy that guides IT investments. When successful, the resulting benefits to both communities will be mutual and exponential.

	<b><i>Key Observations</i></b>	
	<ul style="list-style-type: none"> <li>Commonwealth lacks a common enterprise vision for the business of government.</li> <li>Cohesive enterprise IT strategy for achieving business objectives does not exist.</li> <li>New and emerging technologies are being explored in an ad hoc manner.</li> <li>24/7 government placing new pressures on old business processes.</li> <li>Priorities, resource allocation, and trade-offs are being made in isolation.</li> <li>Long-term planning incomplete for supporting rollout of enterprise initiatives.</li> <li>Enterprise IT investment not being managed as a portfolio.</li> </ul>	
	<b><i>Recommendations</i></b>	<b><i>Priority</i></b>
S1	<ul style="list-style-type: none"> <li>Define the enterprise, articulate an enterprise vision, and create an enterprise strategic business plan.</li> </ul>	Pursue
S2	<ul style="list-style-type: none"> <li>Establish a formal process for creating and updating the enterprise IT strategic plan for managing and expanding information technology in the Commonwealth, in alignment with the business strategy.</li> </ul>	Plan
S3	<ul style="list-style-type: none"> <li>Develop a comprehensive IT infrastructure plan for the enterprise.</li> </ul>	Plan
S4	<ul style="list-style-type: none"> <li>Align the Commonwealth's legal framework with enterprise strategy and IT plan, within Constitutional guidelines.</li> </ul>	Pursue
S5	<ul style="list-style-type: none"> <li>Align monies from the IT Bond with objectives set out in the enterprise strategic plan.</li> </ul>	Pursue

S6	<ul style="list-style-type: none"> <li>Establish and monitor enterprise service and performance metrics, using a balanced scorecard approach, to measure performance in order to drive accountability and ownership for enterprise success.</li> </ul>	Pursue
S7	<ul style="list-style-type: none"> <li>Drive change within the enterprise by taking a business process reengineering approach and leveraging IT for delivery improvements.</li> </ul>	Pursue

### 3. Architecture and Standards

Development of enterprise architecture standards is a critical, first step in changing the way technology is selected and deployed in the Commonwealth. A properly applied architecture methodology rationalizes IT investments, reduces risk, finds best ways to extend IT, and promotes flexibility and interoperability. An enterprise architecture simplifies decision-making and, when supported by a strong governance process, ensures that individual business goals, as well as the Commonwealth's enterprise goals, are met.

	<i>Key Observations</i>	
	<ul style="list-style-type: none"> <li>Enterprise architecture is not achieving its maximum benefit.</li> <li>Need to establish a focal point to better set and communicate architecture and standards.</li> <li>Confusion exists among users about enterprise standards.</li> <li>Insufficient resources are allocated to defining and advancing enterprise standards.</li> <li>Architecture and standards are not aligned to adequately support the needs of the business of government.</li> </ul>	
	<i>Recommendations</i>	<i>Priority</i>
A1	<ul style="list-style-type: none"> <li>Establish the position of Chief Technology Officer.</li> </ul>	Pursue
A2	<ul style="list-style-type: none"> <li>Update the existing architecture within an established framework.</li> </ul>	Permit
A3	<ul style="list-style-type: none"> <li>Establish a governance process that obtains input from across the enterprise in establishing architecture standards.</li> </ul>	Pursue
A4	<ul style="list-style-type: none"> <li>Define objectives, incentives, and accountabilities that result in integration, implementation, and execution of common processes across "communities of interest".</li> </ul>	Plan
A5	<ul style="list-style-type: none"> <li>Leverage ownership of existing application assets by establishing an "open source" program within the Commonwealth.</li> </ul>	Plan

#### 4. IT Infrastructure

Over time, as independent agencies have sought to meet their own infrastructure support needs, they have designed and built networks, data centers, and application suites. This fragmentation and duplication has driven the cost of infrastructure support higher than it need be, and has increased the barriers to common operations among Commonwealth offices. The Commonwealth should plan to consolidate its IT infrastructure to reduce costs, improve service levels, and increase operational flexibility across the enterprise. The Commission recommends that the Commonwealth evaluate each aspect of its IT infrastructure carefully, to determine whether it is best delivered centrally or through individual business units. An enterprise infrastructure approach need not be an “all or nothing” approach. Properly implemented, shared infrastructure encourages collaboration, reuse of intellectual capital, and implementation of best practices across the enterprise. These benefits, in turn, can help increase innovation, raise quality levels, and reduce cycle time. Most importantly, shared infrastructure can help businesses control costs. IT expenses – which were previously scattered and hidden in pockets throughout the organization – now become more visible and easier to manage, allowing the allocation of increasingly scarce resources to the highest priorities.

	<b><i>Key Observations</i></b>	
	<ul style="list-style-type: none"> <li>▪ Infrastructure (networks/data centers) is fragmented and duplicative.</li> <li>▪ Insufficient resource allocation to disaster recovery and business continuity planning.</li> <li>▪ Management practices and operational procedures are inconsistent.</li> <li>▪ No agreement on ITD’s role in managing the enterprise infrastructure.</li> <li>▪ Infrastructure growth is not guided by a comprehensive enterprise plan that is tied to a business strategy.</li> <li>▪ Emerging centers of excellence are not being leveraged effectively.</li> <li>▪ Use of service level agreements and performance metrics is not institutionalized.</li> <li>▪ Ongoing maintenance and replacement requirements are not well-funded; compete with new initiatives for funding.</li> </ul>	
	<b><i>Recommendations</i></b>	<b><i>Priority</i></b>
I1	<ul style="list-style-type: none"> <li>▪ Undertake consolidation and modernization of the IT infrastructure, in line with the strategic objectives and supported by an analysis of total cost vs. expected benefits.</li> </ul>	Plan
I2	<ul style="list-style-type: none"> <li>▪ Establish quality assurance and quality management practices.</li> </ul>	Pursue

I3	▪ Coordinate and prioritize business continuity planning of operations centrally, including both shared IT infrastructure and an enterprise approach to individual agency business applications.	Pursue
I4	▪ Manage applications as a portfolio across the enterprise.	Plan
I5	▪ Establish central management of IT assets within the Commonwealth and establish plans to refresh technology and update skills.	Pursue
I6	▪ Enhance ITD to provide common infrastructure and shared services for all agencies, and offering these and other services to the judicial and legislative branches of government.	Pursue

## 5. Partnerships

A smart and aggressive enterprise IT strategy moves beyond improving state agency operations to significantly influencing the future deployment of advanced, competitive communications services, and the proliferation of Internet-based applications, throughout the Commonwealth. State government and taxpayers have a vital interest in the aggressive deployment of IT and Internet services that will address the State's most difficult economic, social, and fiscal challenges. To meet these challenges, the IT Commission recommends forming innovative partnerships with governments at the federal and local levels, and leveraging the private sector as an important way to extend and enhance cooperation and digital government services throughout the Commonwealth.

Technology will influence the way future government entities are organized, managed, and operated. The Commonwealth can use enabling technology to become more entrepreneurial in its management, policy-making, service delivery, and willingness to partner with other governments and the private sector. A more flexible and responsive Commonwealth government can use technology from an enterprise perspective to promote creativity, innovation, decentralized decision-making, and the elimination of fragmented and inefficient activities.

The effective and efficient use of information is a key success factor for Massachusetts in the new enterprise environment. It involves processes and mechanisms for collecting, archiving, researching/retrieving, and sharing information across a myriad of public and private partners.



	<b><i>Key Observations</i></b>	
	<ul style="list-style-type: none"> <li>▪ Even with successes such as Berkshire Connect, access to high-speed connectivity in all regions of the Commonwealth remains a challenge.</li> <li>▪ MassConnect is a positive step forward in coordinating public and private resources towards economic development from an enterprise perspective.</li> <li>▪ Massachusetts has developed a comprehensive strategic framework for long-term economic prosperity that can serve as a national model.</li> <li>▪ To present a single face of government, the Commonwealth's definition of enterprise must extend to include cities and towns.</li> <li>▪ Current legal framework and existing culture is a barrier to private sector partnerships.</li> </ul>	
	<b><i>Recommendations</i></b>	<b><i>Priority</i></b>
P1	<ul style="list-style-type: none"> <li>▪ Foster public-public (i.e., federal, local, cross-jurisdictional) and public-private partnerships to provide a seamless service interface in Massachusetts.</li> </ul>	Plan
P2	<ul style="list-style-type: none"> <li>▪ Strengthen partnerships to expand infrastructure, creating more ubiquitous access to technology throughout the Commonwealth.</li> </ul>	Plan
P3	<ul style="list-style-type: none"> <li>▪ Maximize investments to serve the needs of all levels of government, particularly cities and towns, by leveraging partnerships and common, standard solutions.</li> </ul>	Plan
P4	<ul style="list-style-type: none"> <li>▪ Maximize private sector expertise and service to efficiently and effectively deliver government services.</li> </ul>	Pursue

#### D. IMPLEMENTATION

Throughout its deliberations, the Commission's objective was to develop practical, achievable recommendations to create and sustain enterprise IT management and transformational business change for the Commonwealth.

As a final step, members prioritized Commission recommendations according to two criteria: criticality and implementation feasibility. Using these criteria, members reached consensus on placing recommendations into one of four categories: Pursue, Plan, Permit, or Postpone. (These categories are defined at the beginning of Section C, Key Observations and Recommendations.) The results of this prioritization exercise are reflected in the categorized tables above.

The Commission is cognizant of the Commonwealth's severe fiscal environment. However, members believe strongly in the need to take bold steps immediately to preserve



and increase the return to the Commonwealth from its investment in IT. The current budget crisis may serve as a needed catalyst for change.

IBM facilitated a discussion with Commission members about using multi-generational planning as a tool for breaking down complex change into manageable steps. The recommended phasing of action steps that implement Commission recommendations is included with this Executive Summary.

The Commission notes that the new Office of the CIO will need additional resources, or time to reallocate among existing resources, to achieve the organizational readiness necessary to achieve its full potential, and to manage its new responsibilities effectively.

#### **E. MOVING FORWARD: THE ENTERPRISE IT STRATEGY IS JUST THE BEGINNING**

The time is now for government and private sector leaders in the Commonwealth to start the arduous task of taking the “as is” observations, best practices, and recommendations in this report and moving them forward. Through careful review and public debate, the recommendations set forth in this report can serve as a catalyst to bring about better management of government through the effective and efficient use of technology. Although it was beyond the scope of the IT Commission’s work to quantify the financial return to the Commonwealth from implementing these recommendations, Commission members are convinced that the Commonwealth will realize substantial productivity improvements and financial benefits from the consolidation, leveraging, and economies of scale that result from implementing an enterprise approach to IT management.

No one wants a report that gathers dust on the shelf. The enterprise IT strategy advocated in this report provides a solid foundation and an action agenda for the Commonwealth to meet the impending challenges of operating government in a digital world. Continued leadership, far-sighted vision, coordinated planning, and aggressive implementation are necessary if this collaborative effort is to improve and enhance the operations and services of government. The assessment and strategic framework phase has come to a successful conclusion. The momentum is in place to implement effective change throughout the enterprise. The challenging but rewarding work of implementing these recommendations to create and sustain enterprise IT management and transformational business change for the Commonwealth now begins.

Mult-Generational Plan

	Generation 1	Generation 2	Generation 3
Vision	<b>Preparation</b> Enterprise concept begins with executive branch agencies Voluntary participation by agencies from other branches Communities of Interest (COIs) defined Enterprise standards selected and communicated Enterprise inventory completed	<b>Mobilization</b> Collective enterprise power is leveraged and benefits are realized Governance mechanisms configured to meet enterprise requirements Processes are improved and measured according to customer needs Availability of reliable enterprise shared services IT Spending and Return on Investment (ROI) is both objective and accurate	<b>Transformation</b> Single Commonwealth enterprise, presenting single face of government in Mass. All IT investments are enterprise-driven according to customer and agency needs Enterprise has common enterprise infrastructure, consolidated by platform Massachusetts has ubiquitous access to value-added technology Enterprise performance is measured using customer-centric business metrics
	<b>Governance</b> Define, authorize, and communicate the scope and authority of Office of CIO. -- Budget Authority -- Procurement -- Project Management -- Quality Assurance and Quality Management Conduct an organizational assessment. Establish an IT Advisory Board. Identify potential communities of interest, leveraging interest areas established in Governor's agenda (e.g. Labor & Commerce, Commonwealth Development).	Mobilize the Office of the CIO. -- Establish lines of authority. -- Define new roles (COO, CTO, CSO) and fill new positions. Transform ITD into the central service provider of enterprise IT services. -- Establish Memoranda of Understanding with Legislative & Judicial branches -- Establish Service Level Agreements between providers and customers Conduct integrated strategic and IT planning around Communities of Interest.	Implement information technology solutions designed to enable common business processes of the Communities of Interest. Develop both incentives and accountabilities that result in the integration of common processes across Communities of Interest.
Action Steps	<b>IT Strategy</b> Develop and validate an IT Strategy formulated from and aligned with the Governor's published agenda. Require objective and measurable process performance metrics and goals in agency IT investment proposals.	Align Commonwealth's legal framework with the IT Strategic Plan. Align IT investment mechanisms with objectives set out in the Enterprise IT Strategic Plan. -- Business Process Reengineering considerations -- Established process performance metrics	Establish enterprise strategy that defines overall objectives for the delivery of government services in Massachusetts. Institute a recurring process for revising and updating the IT Strategic Plan and ensuring its alignment with the overall Enterprise Strategic Plan. Define customer-centric business metrics to be used as standard measures across the enterprise.
	<b>Standards</b> Select a single architectural framework and update existing architectural standards to align with that framework. Institute an "open source" program for the Commonwealth. Communicate the value of a standardized architectural approach across the enterprise.	Establish a mechanism (governance body, processes, etc.) to further develop and promote compliance with a comprehensive set of architectural standards. Publish and deploy standards across the enterprise.	Ensure that all IT projects comply with established architectural standards to promote greater integration and interoperability of information technology across the enterprise.
	<b>Infrastructure</b> Inventory existing applications to create a single enterprise portfolio. Conduct comprehensive inventory of existing infrastructural elements (i.e. voice networks, data networks, data centers, and portfolio of applications). Define scope of enterprise infrastructure and identify and prioritize opportunities for infrastructure improvement across the enterprise. Identify and verify mission critical components (functions and systems) of the infrastructure, leveraging existing contingency plans, Y2K inventory, etc.	Develop a strategic IT infrastructure plan based upon inventory of as is infrastructure and identification of improvement opportunities. Commence consolidation and/or modernization of enterprise infrastructure in the Commonwealth. Coordinate and leverage requirements of mission critical functions and systems to identify and provide an environment which supports continuity of enterprise operations. Identify factors necessary to calculate Total Cost of Ownership (TCO) for the application portfolio. CIO negotiates bulk purchase agreements for enterprise IT assets (hardware, software, peripherals, etc.).	Optimize enterprise IT infrastructure through comprehensive consolidation and modernization. Maintain a comprehensive business continuity plan for the enterprise, supported by SLA's between Commonwealth agencies and the Office of the CIO. Use application portfolio management to improve IT investment decisions. Deploy all enterprise IT assets according to agency requirements and maintain asset tracking from a single point.
	<b>Partnerships</b> Develop a forum with local governments to leverage shared services and repeatable solutions (i.e. credit card processing, web hosting, etc.). Research and identify legal obstacles inhibiting partnerships between the state and local governments (i.e. infrastructure, procurement, access, etc.). Identify pilot project between federal, state, and local government to create "single view of government" model. Implement annual report card (metrics) on statewide connectivity. Complete Phases I and II of MassConnect Create quarterly forums of private sector thought leadership	Provide incentives for local governments to participate in Mass.gov. Create service offerings for local governments through ITD & Office of the CIO. Begin implementation of Phase III of MassConnect. Create legislative package to implement MassBroadband initiatives. Create internet-based pilot project targeting single Community of Interest (i.e. healthcare reform). Address legal barriers for public-private partnerships, including multi-year contracting.	Use combination of public-public and public-private partnerships to promote "single face of government" enterprise wide. Develop specialized portals around Communities of Interest. Leverage Communities of Interest to establish geographic and functional Centers of Excellence.
	<b>Security</b> Omitted	Omitted	Omitted